Zootaxa 4434 (2): 381–384
http://www.mapress.com/j/zt/

Correspondence

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

https://doi.org/10.11646/zootaxa.4434.2.10
http://zoobank.org/urn:lsid:zoobank.org:pub:DB2BF1AD-AE58-4998-945D-7BC3EED10CB5

A new species of *Lobesia* Guenée, 1845 from Thailand (Lepidoptera: Tortricidae: Oletheutinae)

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Lobesia bisacca Charoensub and Pinkaew, **n.sp.**, is described from Thailand. Specimens were collected in light traps in Trat Province, eastern Thailand and were deposited in the Kasetsart Kamphaengsaen Insect Collection. The new species can be distinguished from all other congeners by the unusual, long, protruding process from the base of the sacculus in the male genitalia. Illustrations of the adult, male genitalia, and male secondary characters are provided.

Key words: hairpencil, morphology, new species, Olethreutini, Tortricidae

The genus *Lobesia* was established by Guenée, 1845 with *Asthenia reliquana* Hübner [1825] 1816 as its type species. This genus is characterized by a distinctive forewing pattern that typically includes transverse bands in the basal half, ending in a transverse triangle with its apex directed towards the termen (e.g., Razowski 2003: figs. 22–30, Horak 2006: figs. 213–218). Male genitalia usually have a hooked apodeme for the attachment of muscle m4; socii are usually present; and the ventral margin of the valva usually has one or two slender, deep notches with groups of spines on the lobes surrounding the notch. Female genitalia are diverse, with a complex and often deeply invaginated sterigma (Horak 2006). One hundred and eleven described species are presently assigned to *Lobesia* worldwide, and they are distributed mostly in Europe and Asia (Gilligan *et al*. 2014). Larval hosts are documented for 25 species of *Lobesia*, and they are recorded from 44 different plant families (Brown *et al*. 2008). In Thailand, 12 species have been recorded by various authors (i.e., Bae 1995, Pinkaew 2007, Pinkaew and Phewphanh 2017): *L. acicula* Phewphanh and Pinkaew, 2017; *L. aeolopa* Meyrick, 1907; *L. ambigua* Diakonoff, 1954; *L. fetialis* (Meyrick, 1920); *L. genialis* Meyrick, 1912; *L. kurokoi* Bae, 1995; *L. lithogonia* Diakonoff, 1954; *L. moriutii* Bae, 1995; *L. pattayae* Bae, 1995; *L. siamensis* Bae, 1995; *L. transtrifera* (Meyrick, 1920); and *L. ultima* Diakonoff, 1954. The purpose of this contribution is to describe a new species recently discovered in Thailand.

Materials and methods

Adults were collected in light traps in Trat Province, eastern Thailand. Specimens examined are deposited in the Kasetsart Kamphaeng Saen Insect Collection (KKIC). Adults were photographed with a Cannon DSLR 5D mark II camera with a 100 mm macro lens. Genitalia were dissected following the method of Common (1990), and they were photographed with a Leica DM750 compound microscope equipped with an ICC50 camera module. Labial palpi were photographed using a Leica S8 APO stereomicroscope equipped with a Leica MC170 HD camera module.

Results

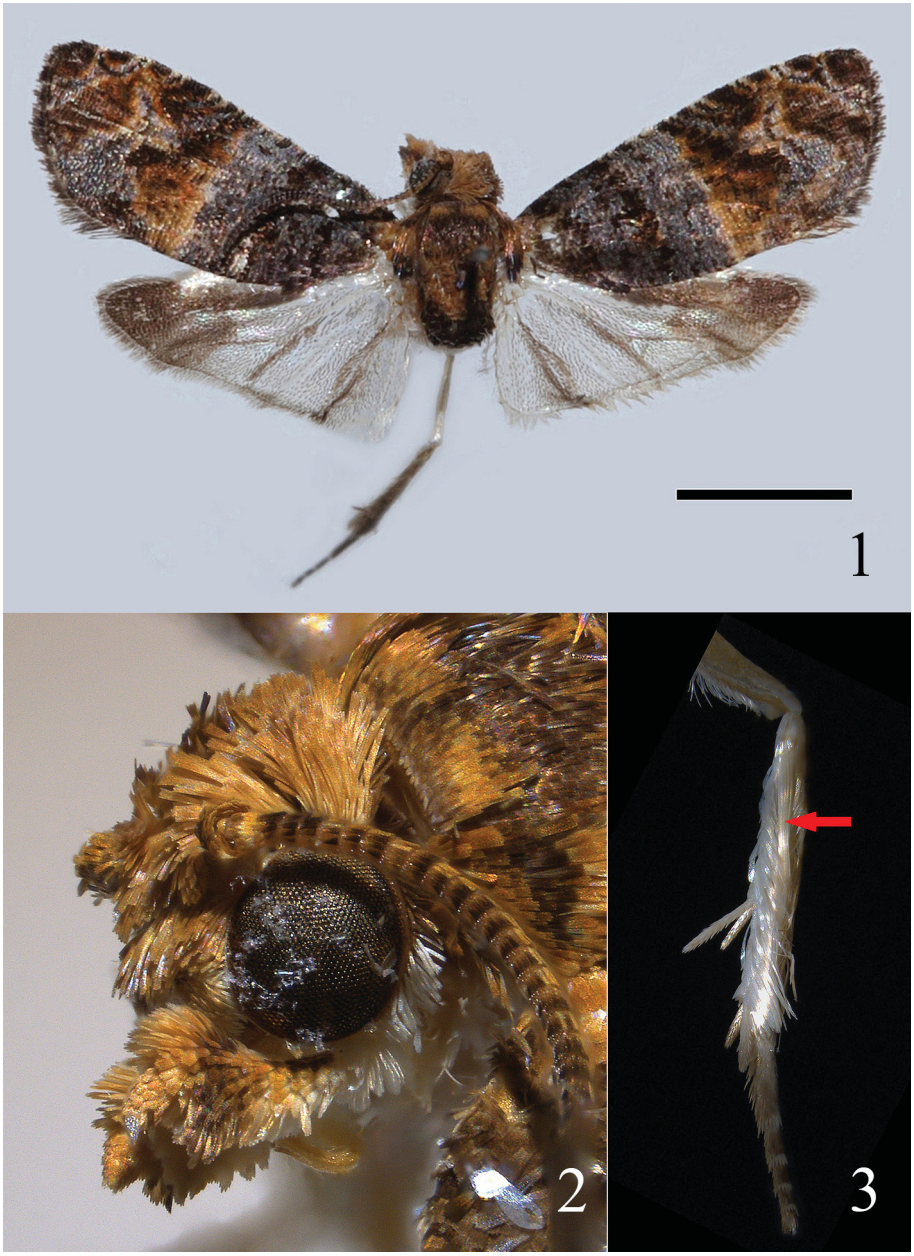
Lobesia bisacca Charoensub and Pinkaew, n.sp. (Figs. 1–7)

Type material. *Holotype*: (♂), THAILAND, Trat Province, Trat Agroforesty Research Station, 12°23'34"N, 101°40'00"E, ca. 46 m, 16–19 Sep 2010, N. Pinkaew, np4719 (genitalia slide NP3466).

Paratypes (2♂): THAILAND, Trat Province, Trat Agroforesty Research Station, 12°23'43"N, 101°40'32"E, ca. 30 m, 17–18 Feb 2012, N. Pinkaew, np5394 (genitalia slide NP1572), 24–25 Dec 2012, N. Pinkaew, np4904 (genitalia slide NP1571).

Accepted by J.W. Brown: 8 May 2018; published: 15 Jun. 2018

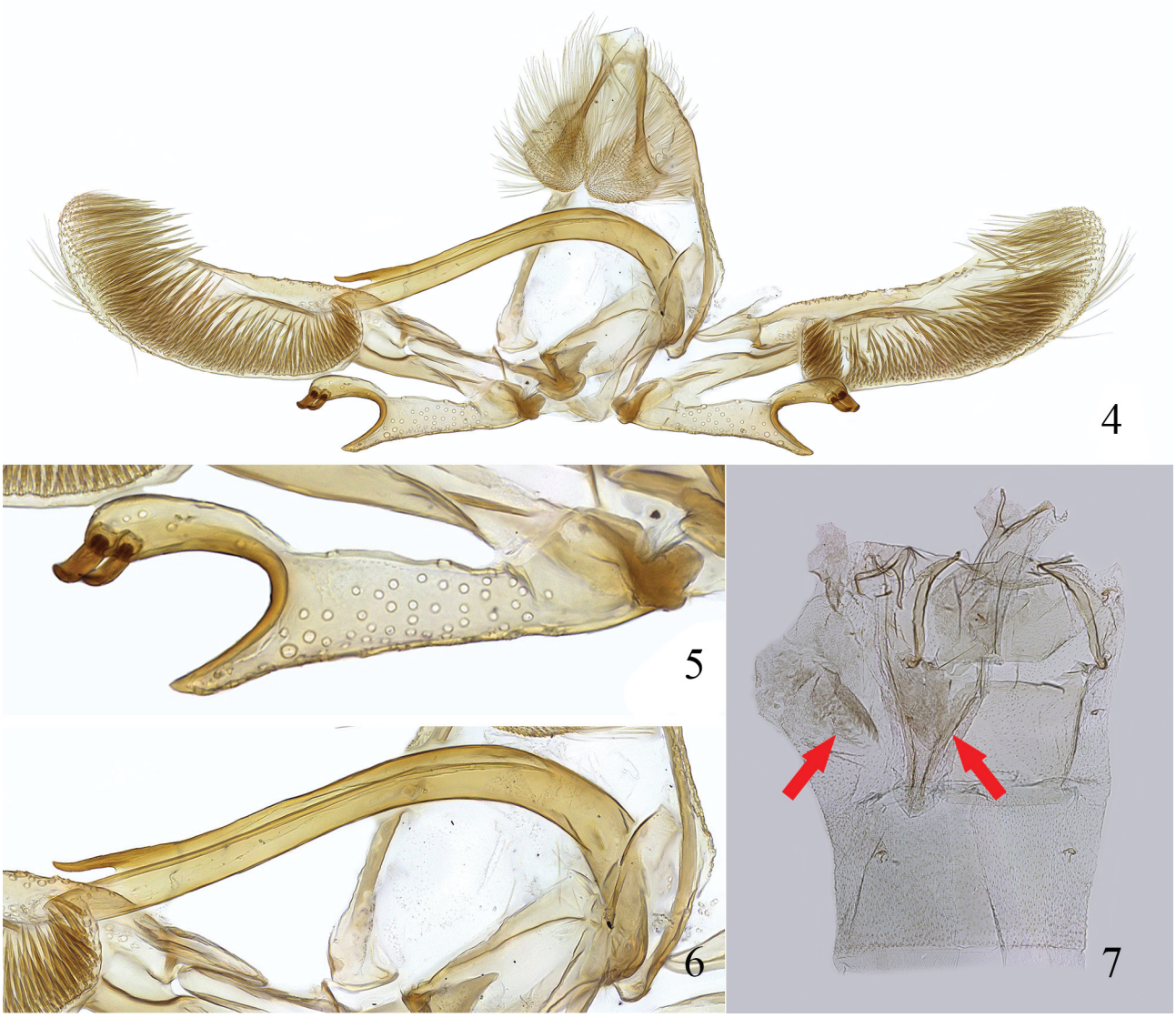
Diagnosis. The new species is most similar to *L. siamensis* Bae, 1995 in wing pattern but differs in features of the male genitalia. The sacculus of *L. bisacca* has a protruding process from the base of the valva that is distinct from that of all other congeners. The apex of this process is divided into two parts: an upper part that is clavate and slightly curved, comprised of two short, curved, strong spines apically, and a ventral part that is subtriangular with a pointed apex.



FIGURES 1–3. Adult of *Lobesia bisacca* **n.sp.** 1. Holotype male. 2. Head of holotype. 3. Hind tibia with hairpencil (arrow) (scale bar = 2.0 mm).

Description. Adult (Fig. 1). Head: Lower frons yellowish white, upper frons and vertex pale brown; labial palpus porrect (Fig. 2), first segment white, second segment expanded apically, pale brown, with narrow blackish mark dorsobasally, with irregular, transverse band apically, third segment short, pale brown; antenna long, reaching beyond middle of forewing costa, each flagellomere with basal half brown and apical half dark brown. Thorax: Pronotal collar dark brown; tegulae with alternating band of brown and dark brown; mesonotum brown, with pale brown, transverse band anteriorly; posterior scale tufts dark brown; hind tibia with long, yellowish white hairpencil on inner margin, originating from base of tibia. Forewing length 4.4–4.5 mm (n = 3); costal margin nearly straight in basal half, slightly convex in apical half, with well-developed system of strigulae, rounded apically, termen oblique, weakly convex; ground color gray; basal patch with dark brown, irregular, transverse fascia; median patch subtriangular, pale brown to dark

brown, inner margin relatively straight, extending from middle of costa to dorsum, outer margin extending outward from middle of costa to base of M_2 and then inward to near middle of dorsum; preterminal patch extending obliquely outward from costa beyond median patch to termen between M_2 and M_3, brown mixed with dark brown, broken by a sinuate, narrow, dark brown line extending from costa to irregular subtriangular pretornal patch, brown to dark brown; forewing apex with a sinuate, dark brown, narrow line extending from costa to termen at M_1, with small dark brown spot at apex; underside grayish brown with row of yellowish white spots along costa. Hindwing subtriangular, mostly translucent, covered with sparse hair-like scales, pale brown, except covered with dense brown scales along costa to apex; underside pale brown along costa to apex, remainder pale gray. Abdomen: Male with a pair of elongate patches of modified scales on sternum II (Fig. 7). Male genitalia (Fig. 4) with uncus absent; tegumen moderately sclerotized, rounded apically, with small, subtriangular apodeme of muscle m4; socii ovate, moderately wide, rounded apically, densely setose; gnathos arising near middle of tegumen, moderately sclerotized, protruding upward; anellus surrounding base of phallus; vinculum weakly sclerotized; juxta small, subtriangular; caulis moderately long; phallus (Fig. 6) cylindrical and parallel-sided, long, strongly curved in basal half, slightly curved dorsoapically in apical half, with moderately long, pointed apically; valva long, sacculus (Fig. 5) small, with moderately long, protruding process extending outward, slightly widened to apex, with sparse scale sockets, apex strongly concave and sclerotized, divided into two parts, upper part clavate, rounded apically, with two strong curved spines apicoventrally, ventral part subtriangular, pointed apically; cucullus long, ca. 1.5 times length of sacculus, cylindrical, moderately curved, rounded apically, densely setose on ventral half, reaching apex. Female unknown.



FIGURES 4–7. Male genitalia and abdomen of *Lobesia bisacca* **n.sp.** 4. Male genitalia, slide No. NP3466, holotype. 5. Protruding process from base of sacculus. 6. Phallus. 7. Abdominal sternum I+II with scale patches (arrows).

Distribution. Thailand (Trat)

Etymology. The specific epithet "*bisacca*" refers to the divided process of the sacculus.

Remarks. Specimens were collected in lowland dry evergreen forest at the Trat Agroforestry Research Station, at an elevation of 30–46 m.

Acknowledgements

This research is supported by the Kasetsart University Research and Development Institute, in part by the Graduate Program Scholarship from the Graduate School, Kasetsart University, and The Higher Education Research Promotion and National Research University Project of Thailand, Office of the Higher Education Commission. We thank the Trat Agroforesty Research Station, Faculty of Forestry for support. We also thank the Department of Entomology, Faculty of Agriculture at Kamphaengsaen, Kasetsart University, Kamphaeng Saen Campus, for providing laboratory facilities. We also express our sincere thanks to two anonymous reviewers for comments and suggestions.

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